

FIG. 1



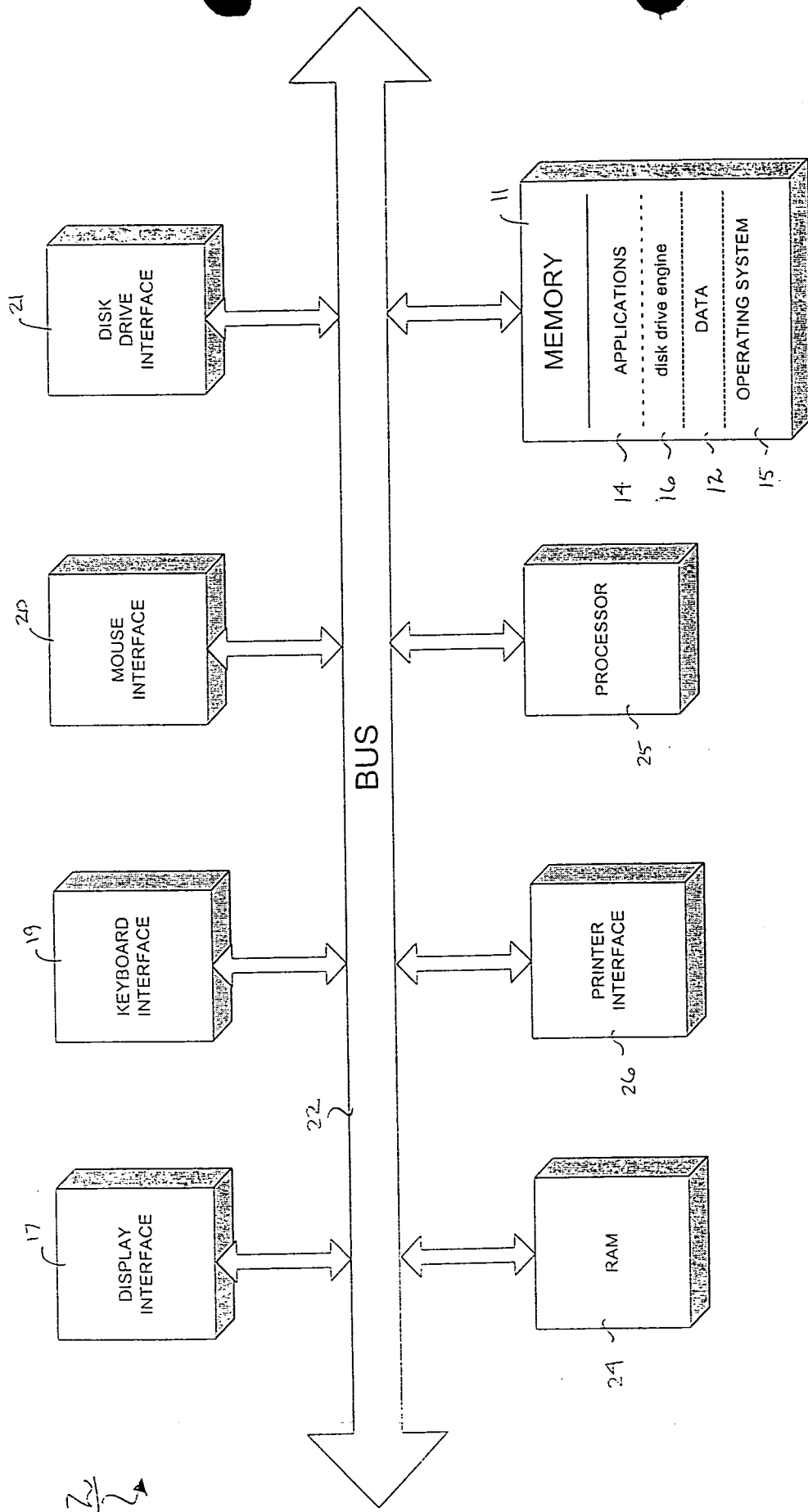


FIG. 2

09/26/2014 10:24:39

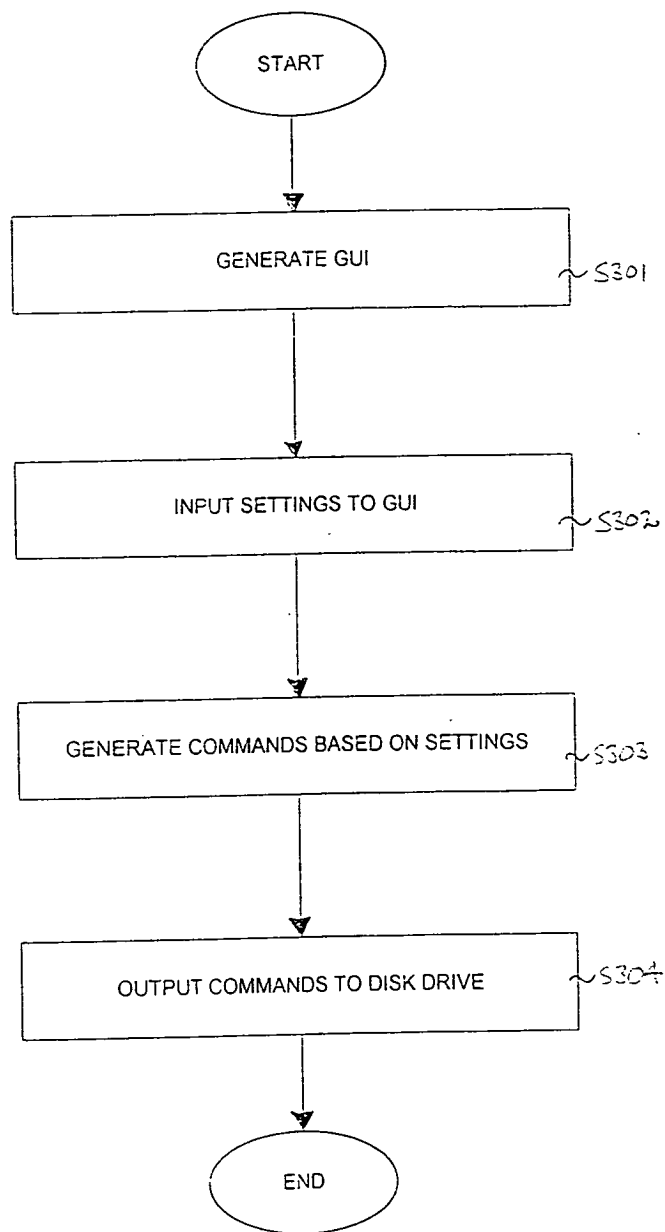


FIG. 3

27
↓

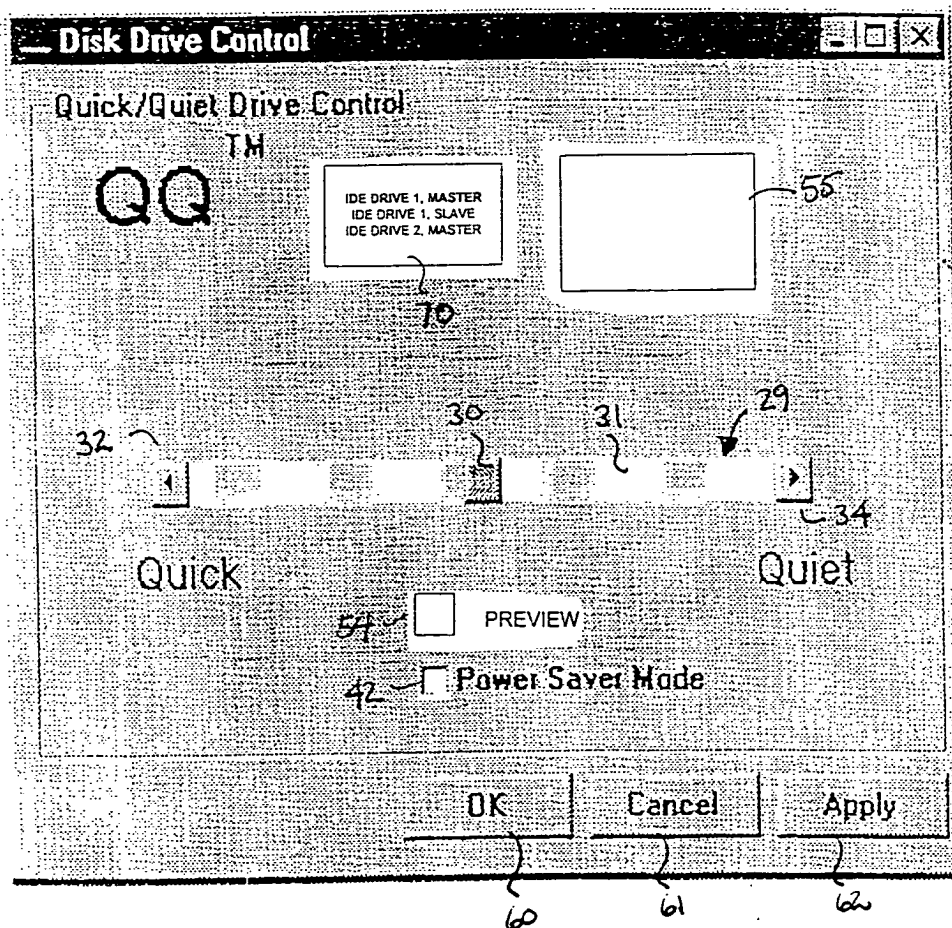


FIG. 4

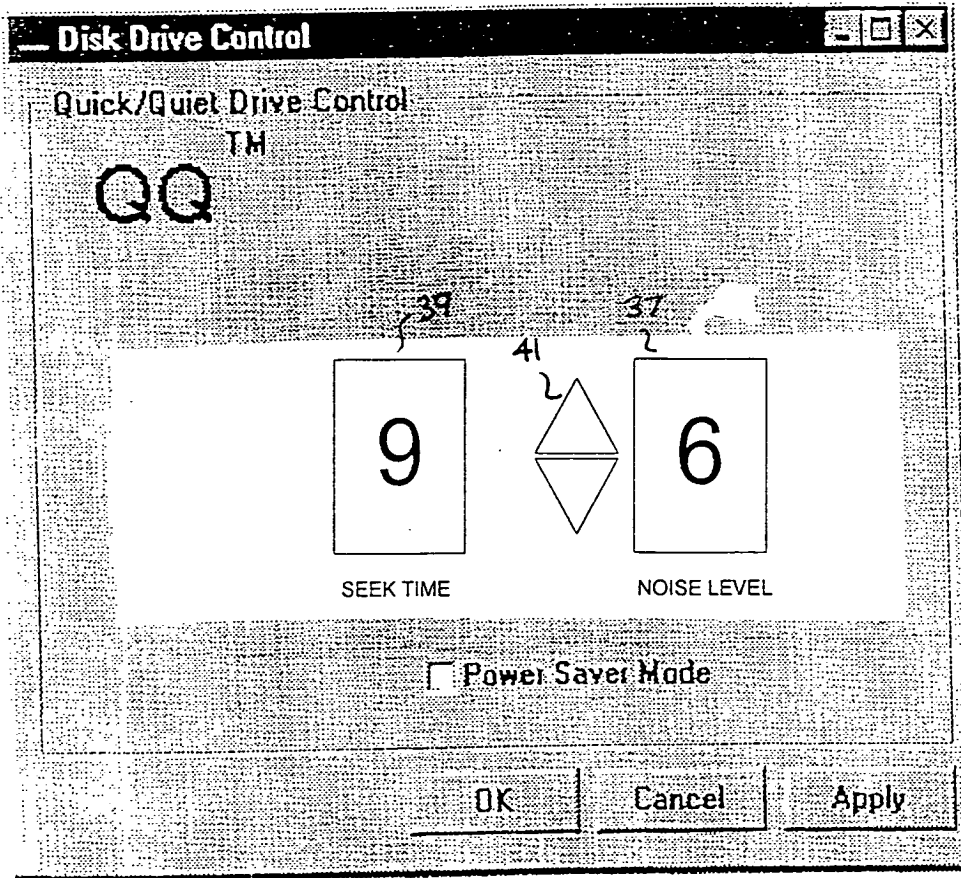


FIG. 5

FIG. 6

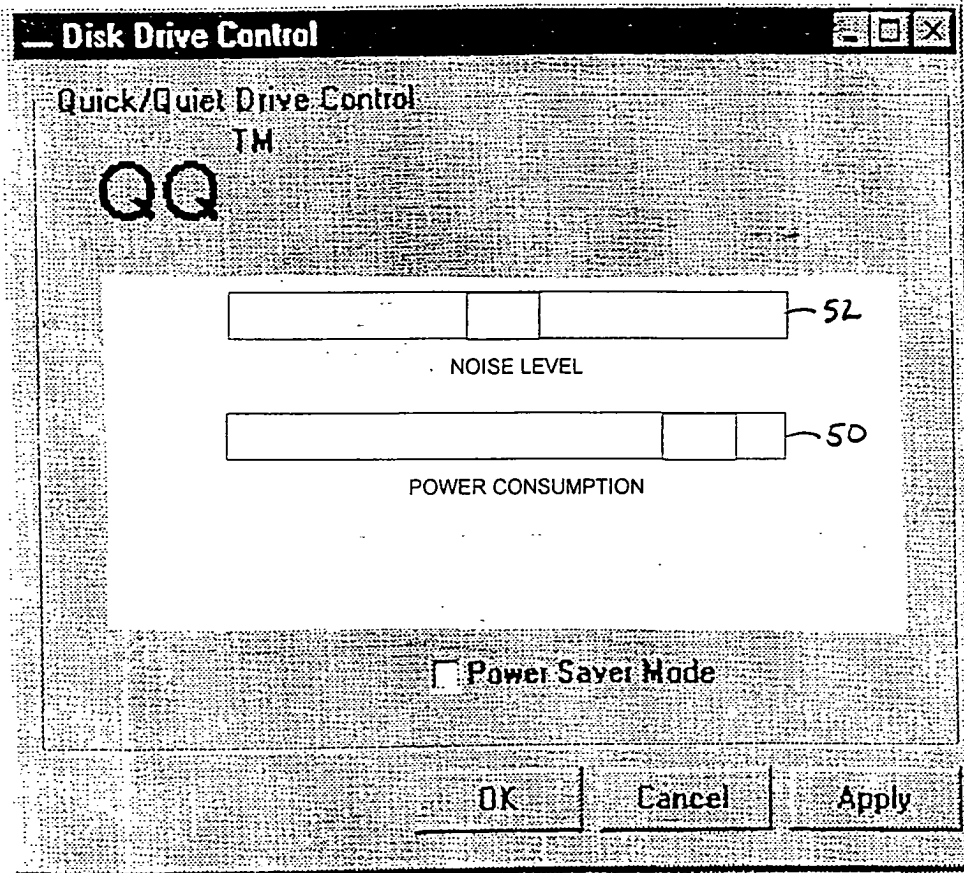


FIG. 7

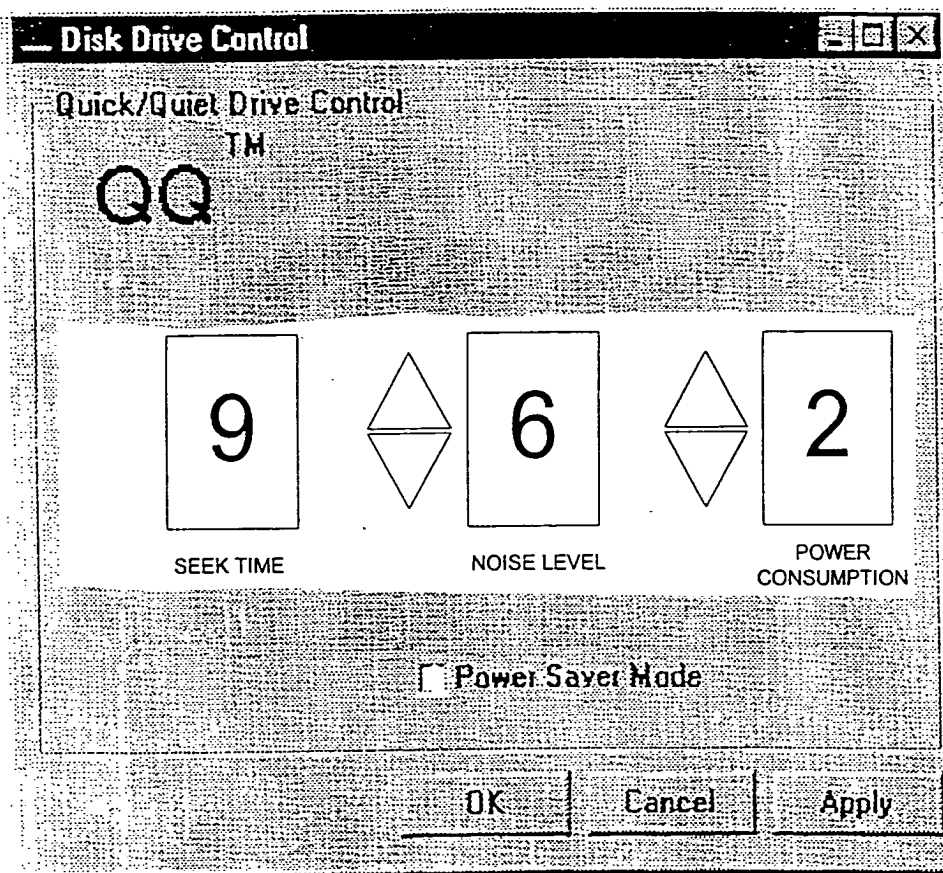


FIG. 8

0926271.03049
15640E0" T829260

IDE DRIVE 1, MASTER
IDE DRIVE 1, SLAVE
IDE DRIVE 2, MASTER

FIG. 9

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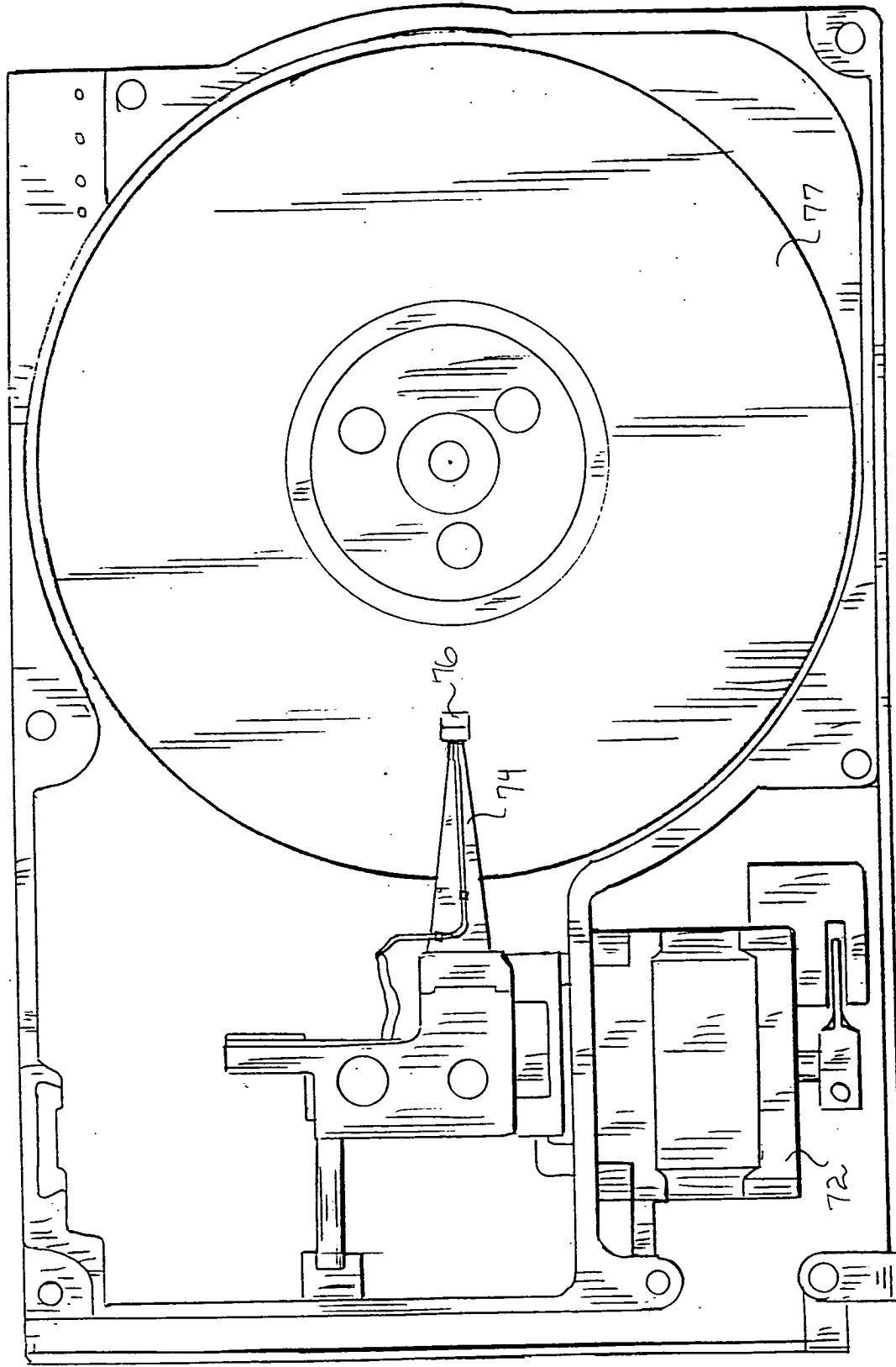


FIG. 10A

6540E0" T829260

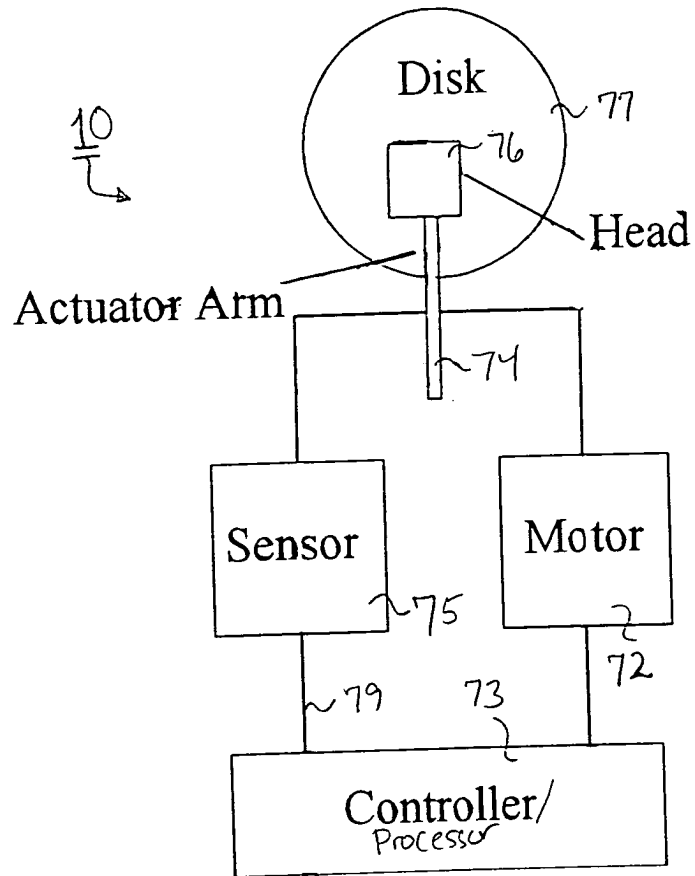


FIG. 10B

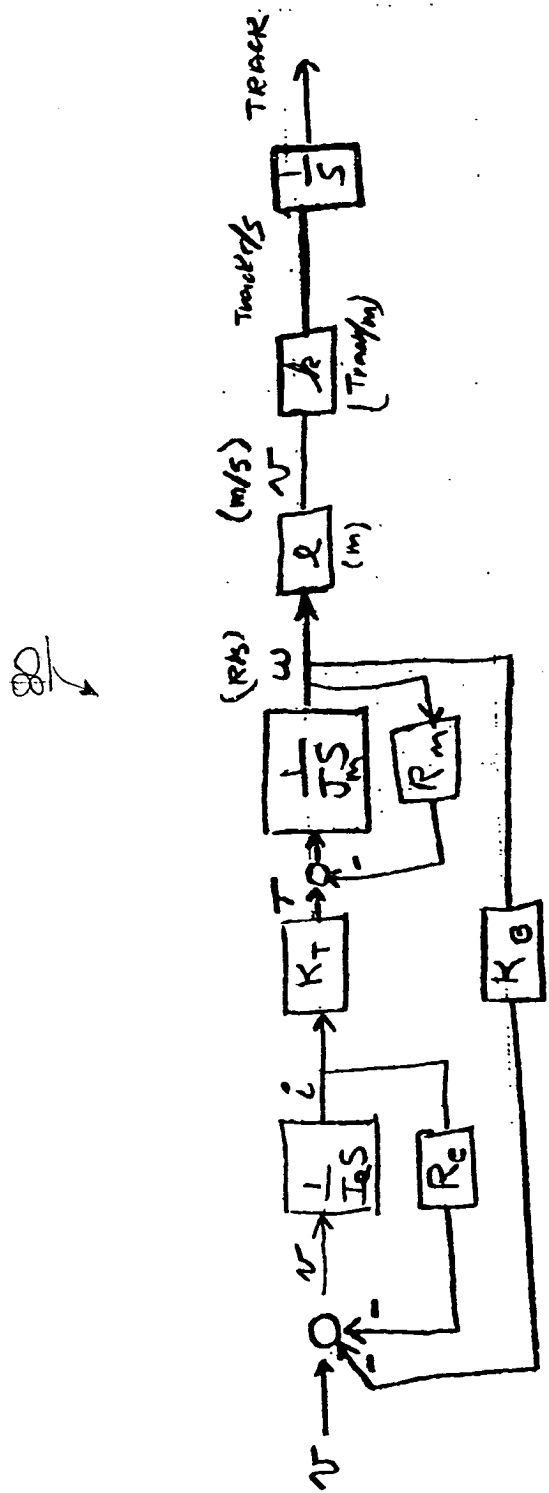


FIG. 11

55410E0" T8X29260

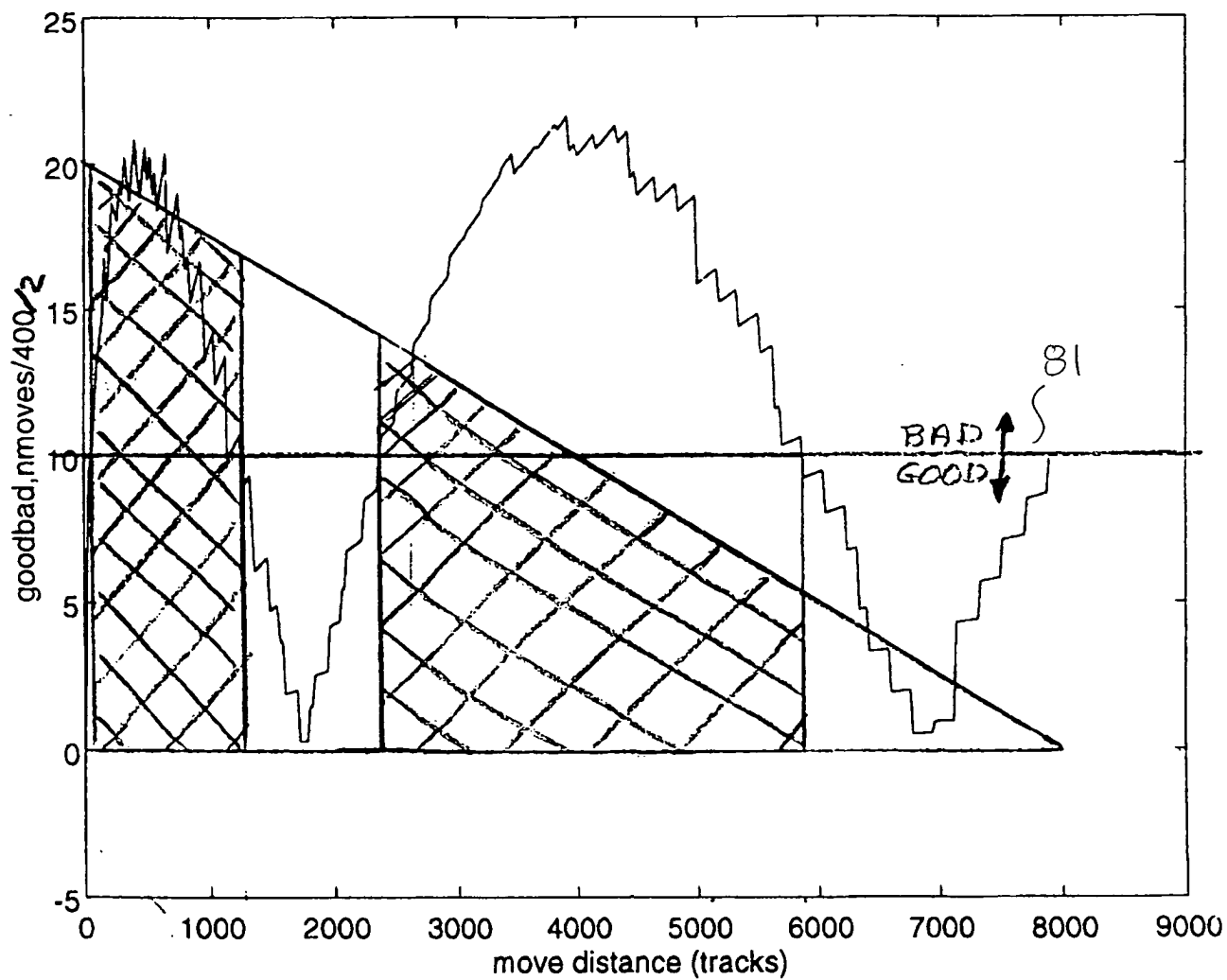


FIG. 12

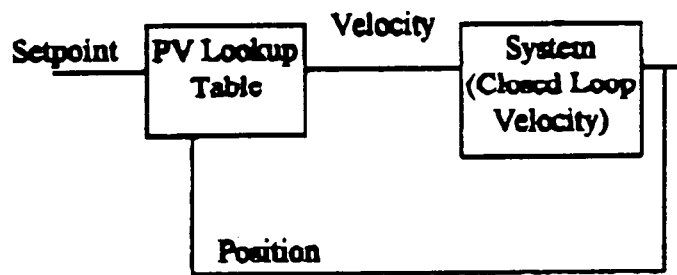


FIG. 13
(PRIOR ART)

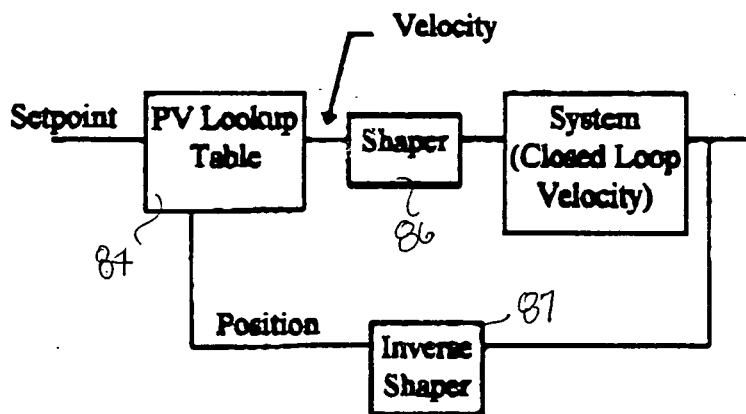


FIG. 14

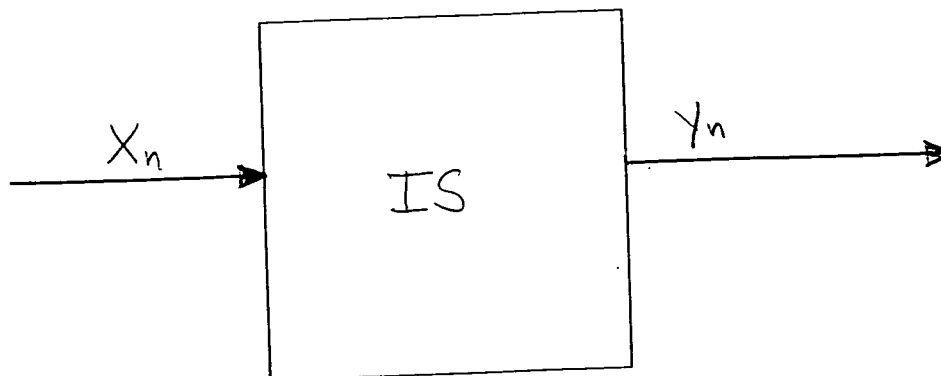


FIG. 15

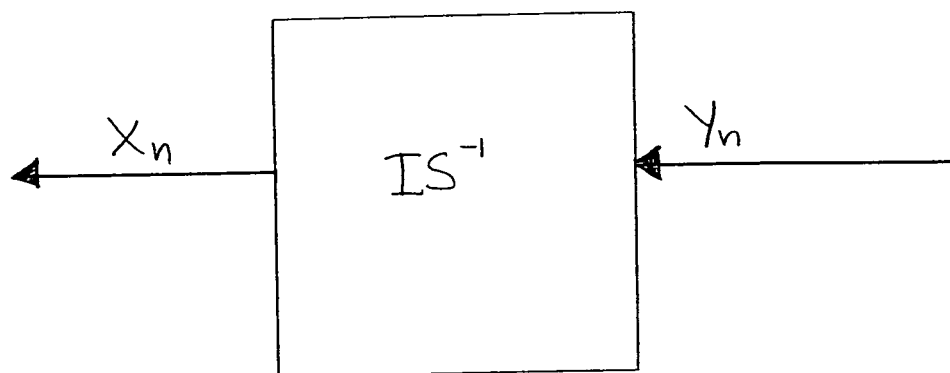


FIG. 16

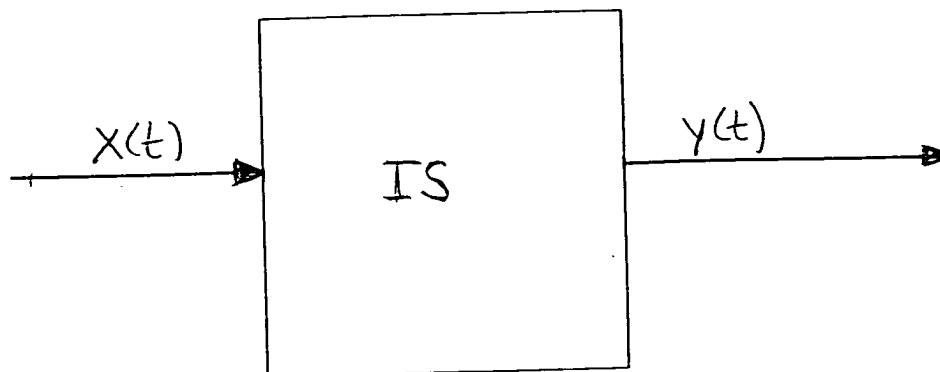


FIG. 17

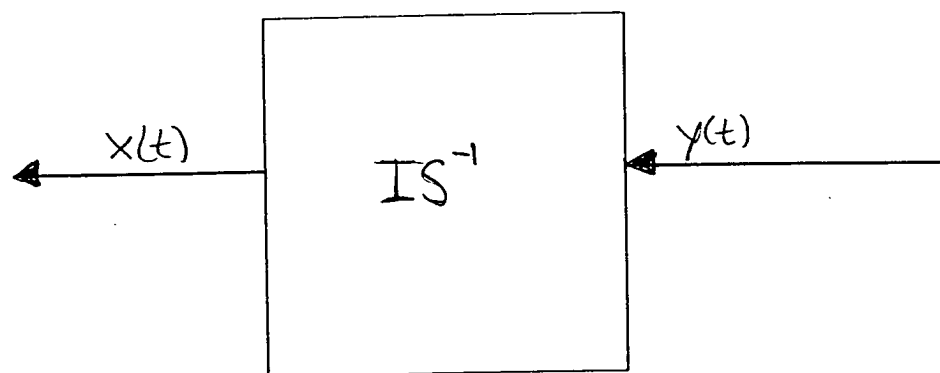


FIG. 18

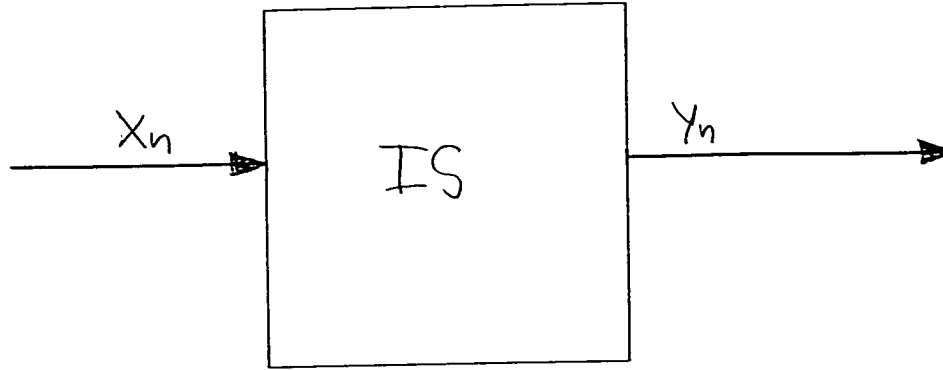


FIG. 19

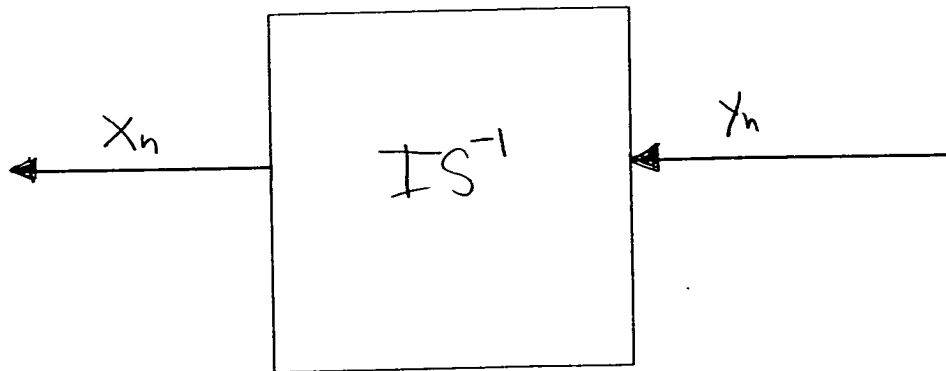


FIG. 20

66-7050-1329250

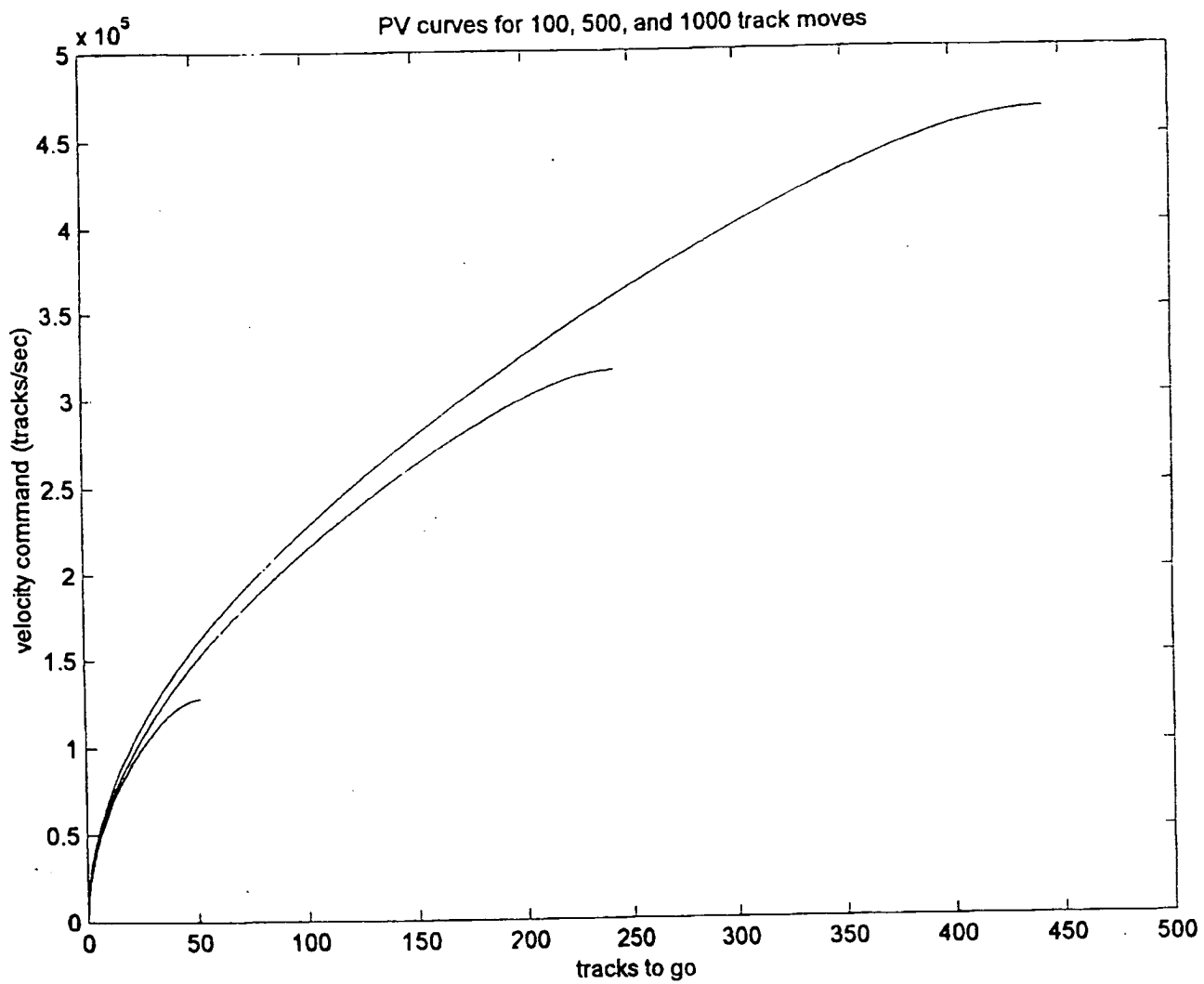


FIG. 21

667060" F829260

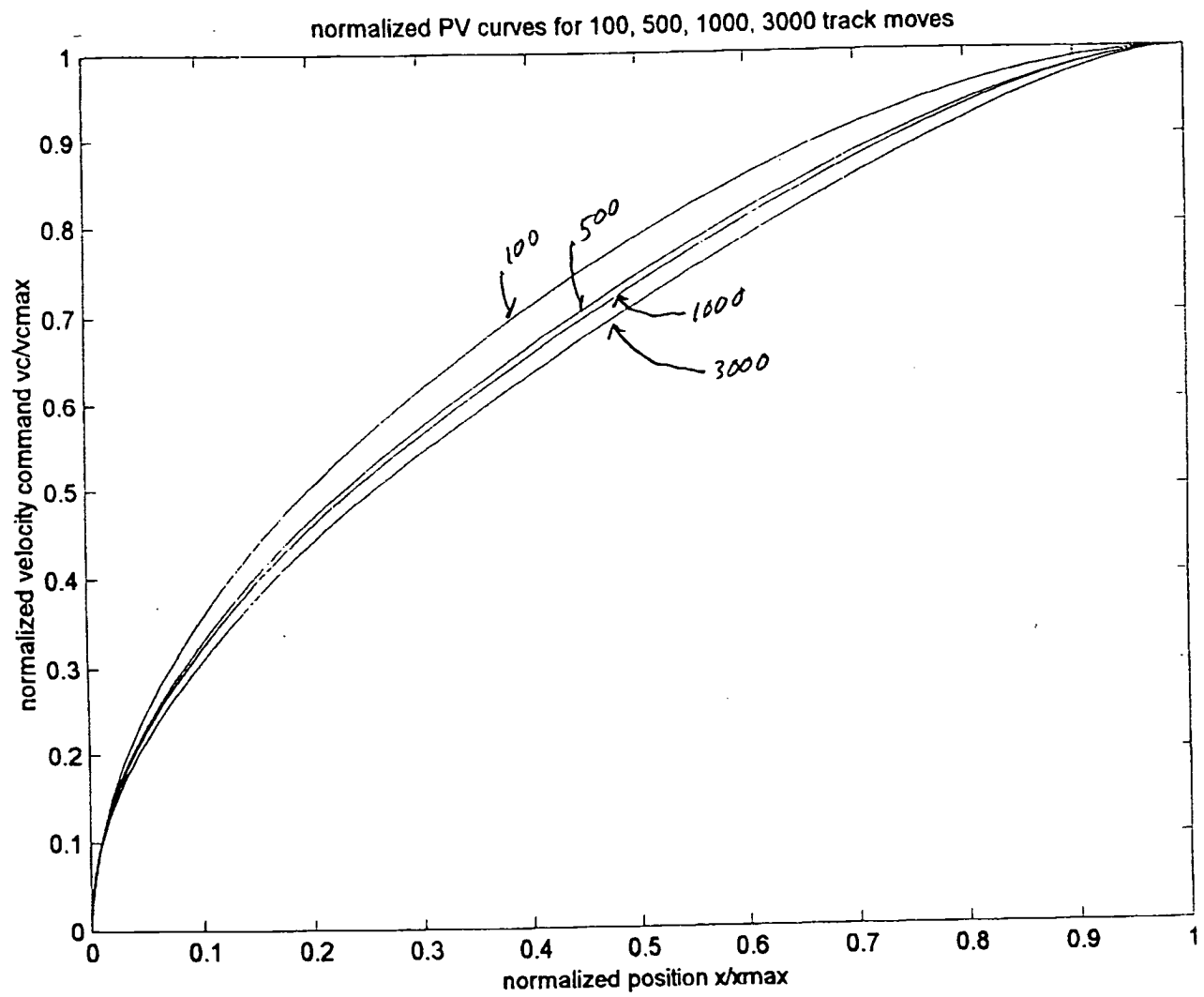


FIG. 22

667063-1829260

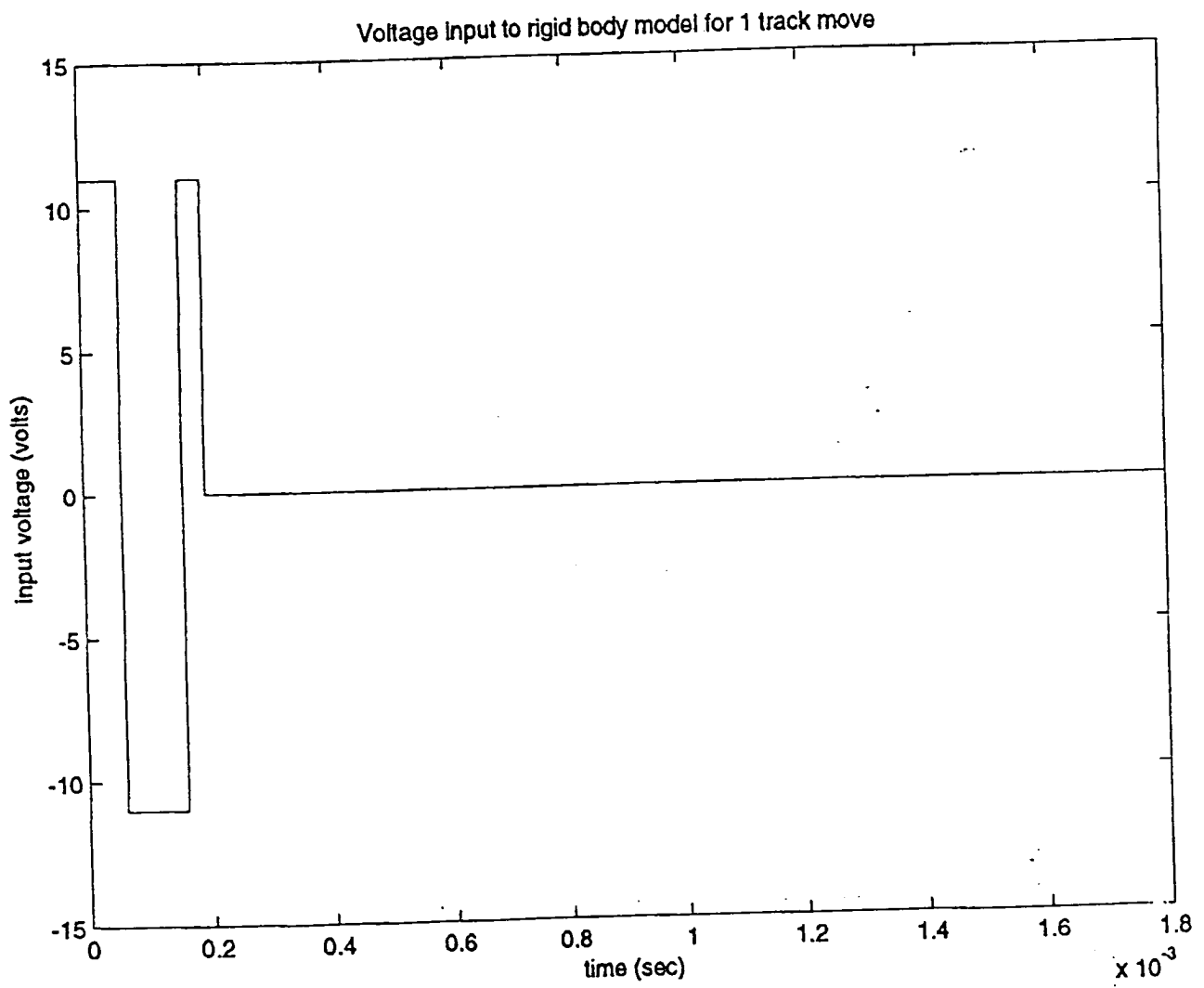


FIG. 23A

664020" T13229260

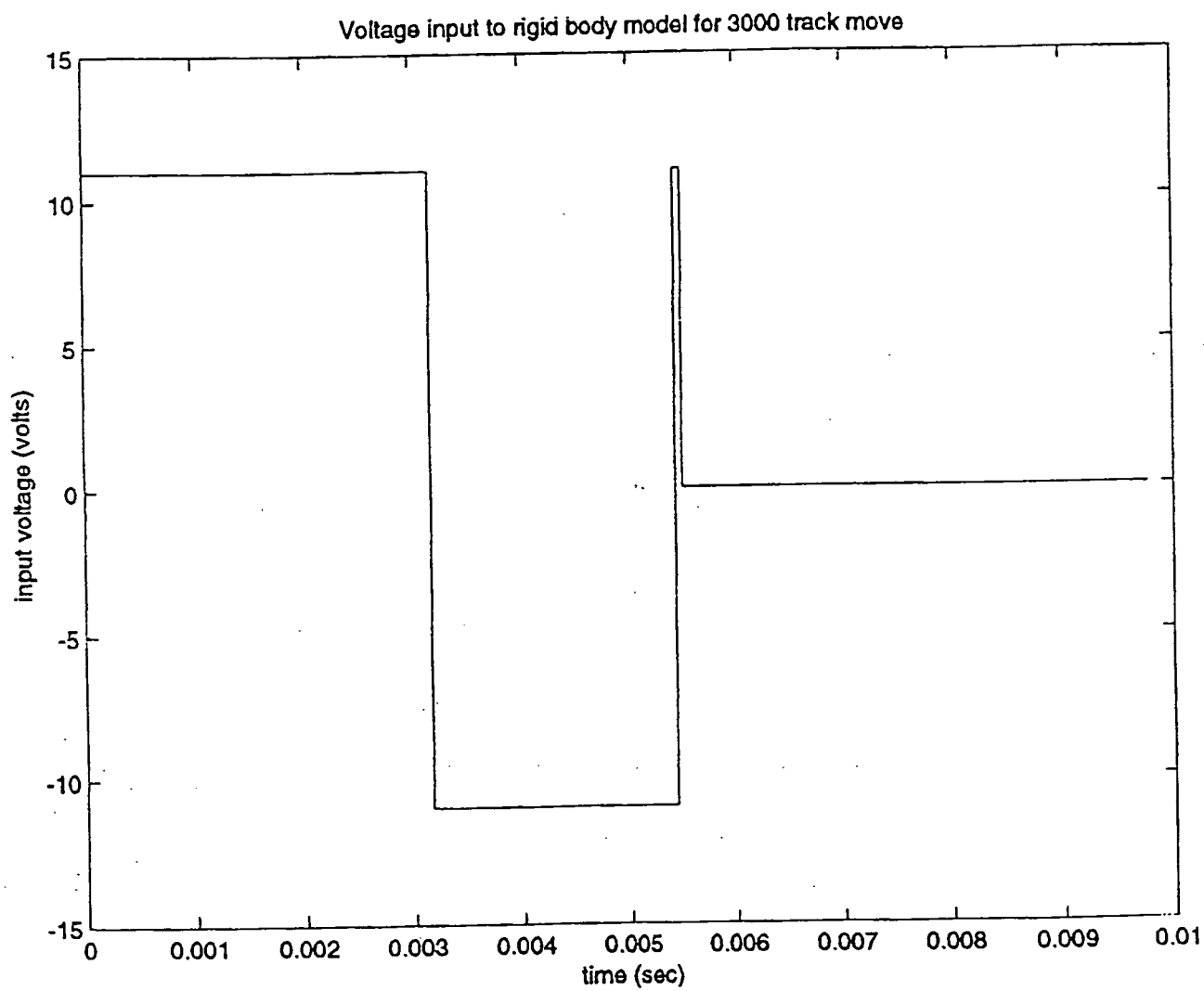


FIG. 23B

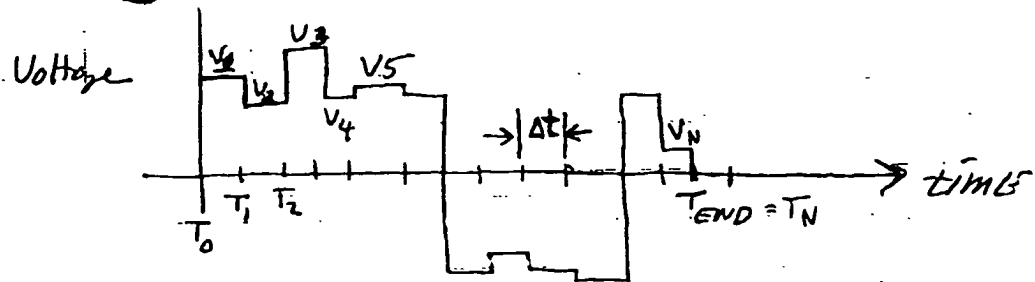


FIG. 24

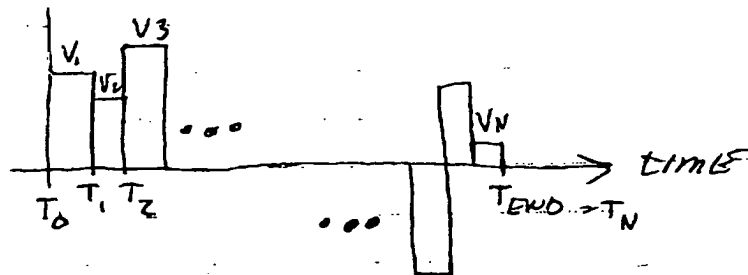


FIG. 25

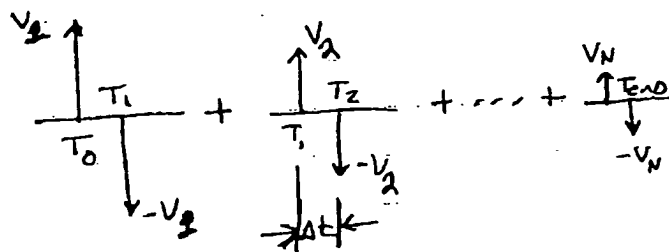


FIG. 26

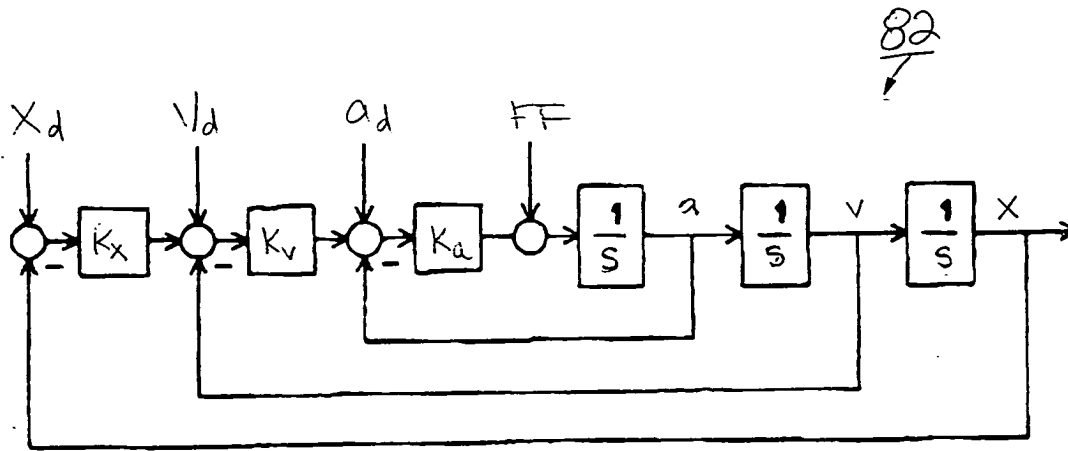


FIG. 27

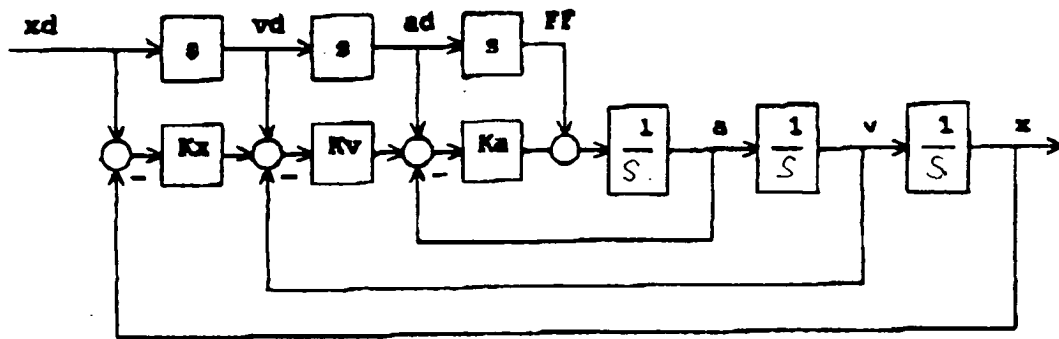


FIG. 28

The diagram illustrates the reduction of a complex feedback control system into a single transfer function block.

Left Side (Original System):

- The input signal x_d is distributed to three parallel forward paths.
 - Path 1: A direct path with a gain of 1.
 - Path 2: A path containing a block with the transfer function $\frac{s}{K_a}$.
 - Path 3: A path containing a block with the transfer function $\frac{s^2}{K_x K_v}$.
- The outputs of these three paths are summed at a junction (represented by a circle with an arrow).
- The summed signal then passes through a feedback block with the transfer function $\frac{s^3}{K_x K_v K_a}$.
- The output of the feedback block is subtracted from the summed signal at another junction (represented by a circle with an arrow).

Right Side (Reduced System):

- The entire system is represented by a single block with the input x_d and the output.
- The transfer function of this block is:

$$\frac{s^3 + K_a s^2 + K_v K_a s + K_x K_v K_a}{K_x K_v K_a}$$

FIG. 30.

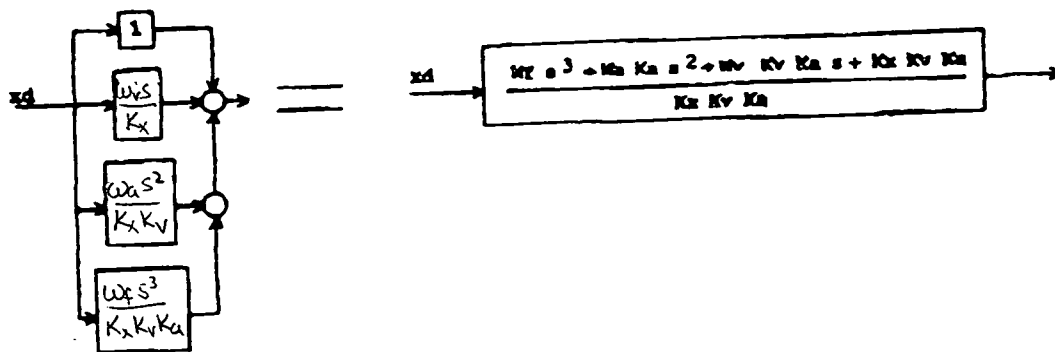


FIG. 31

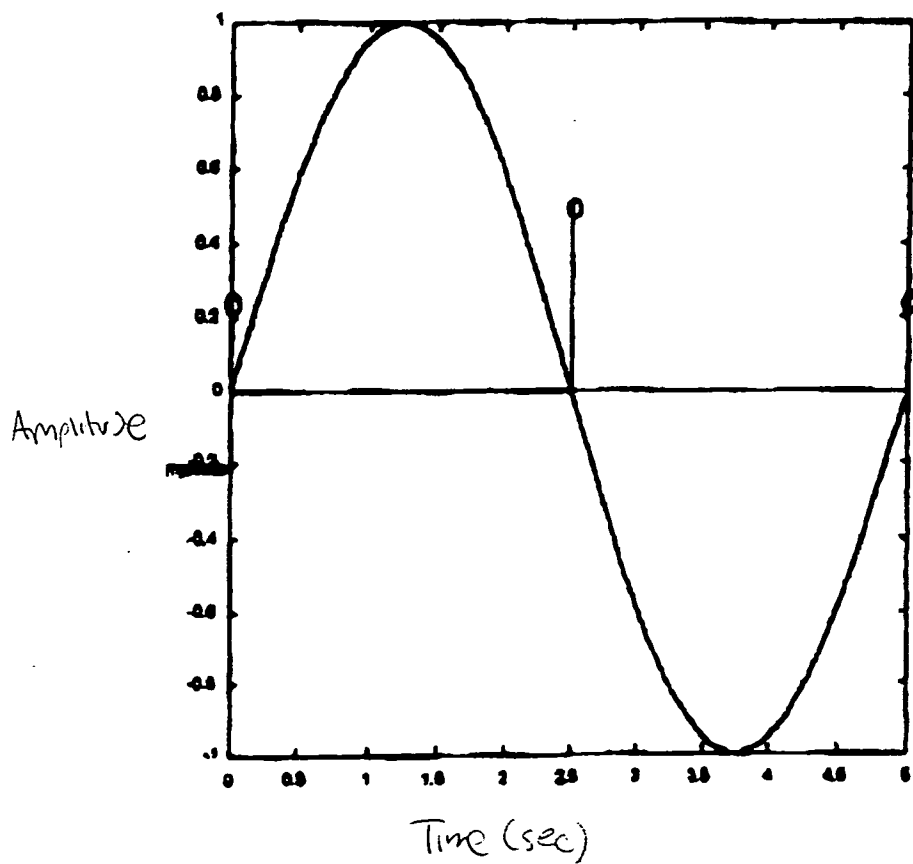


FIG. 32

Amplitude

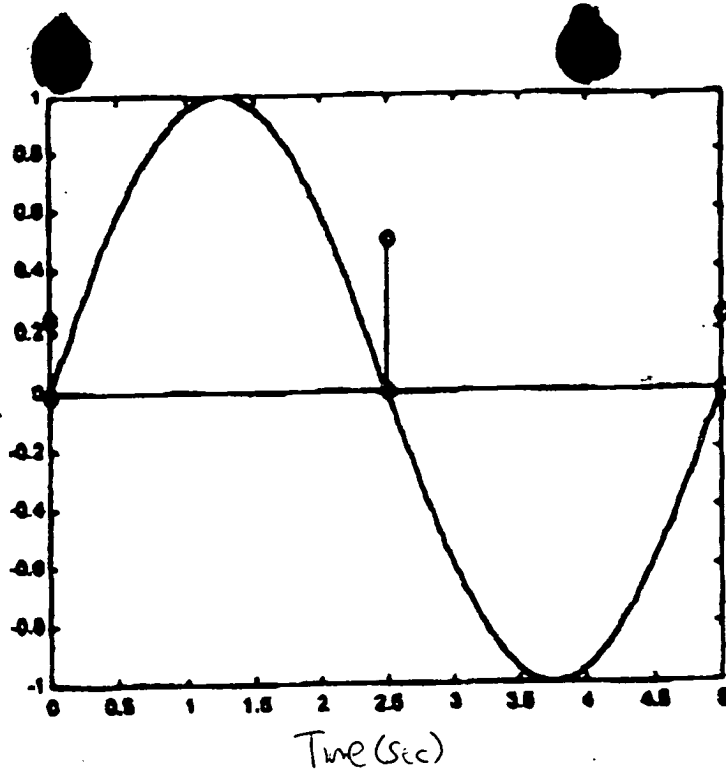


FIG. 33

Amplitude

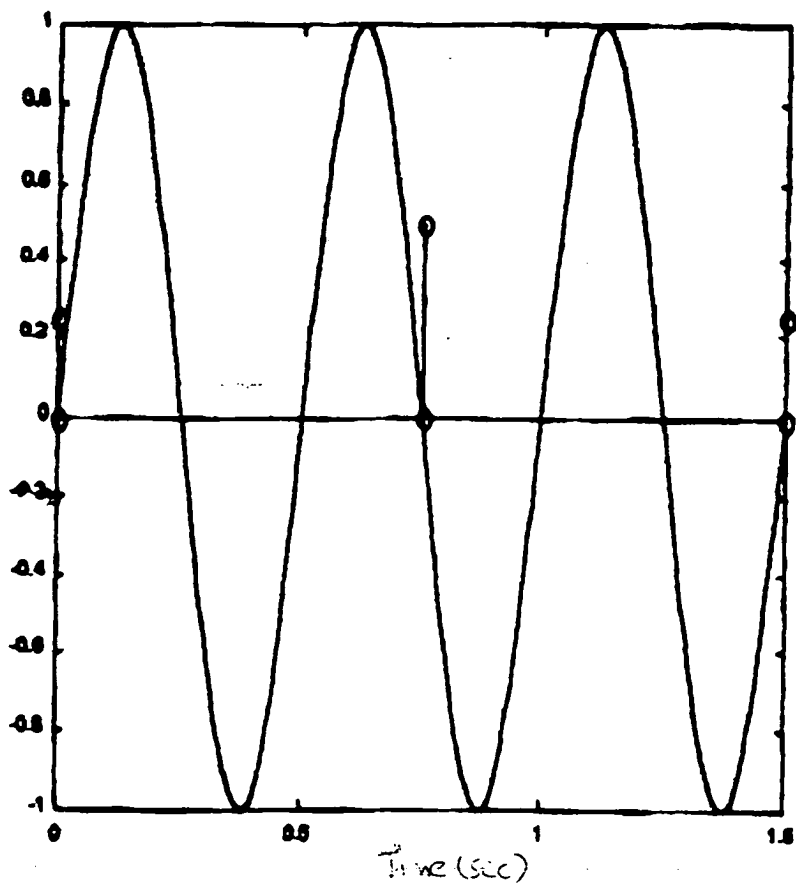


FIG. 34

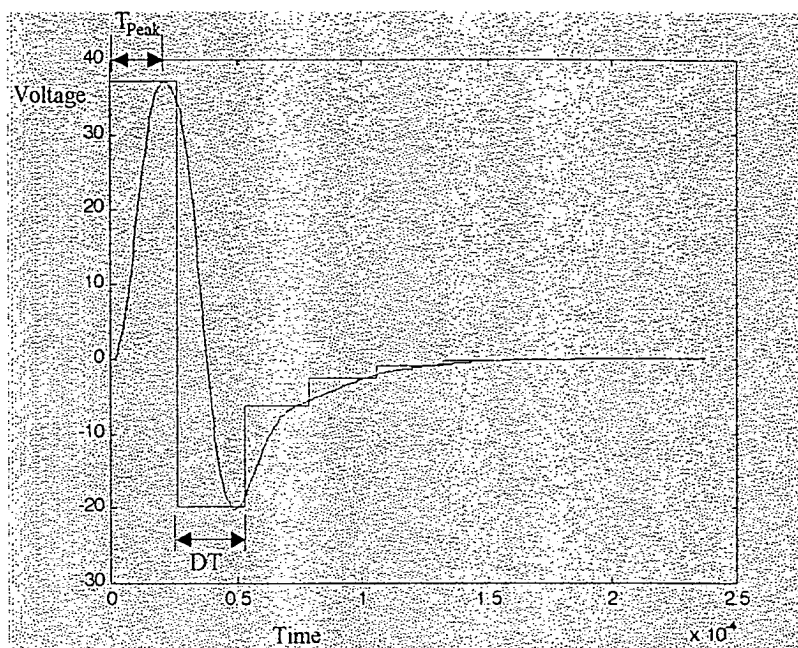


FIG. 35